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## Regional differences in job satisfaction for mainland Chinese nurses

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### ABSTRACT

**Background:** Although there is an abundance of research on nurses' job satisfaction, there is a paucity of publications on the regional differences that impact on nurses' job satisfaction.

**Purpose:** To compare the differences between northern and southern hospitals in Mainland China with respect to nurses' job satisfaction.

**Methods:** A cross-sectional survey design was selected. Data were analyzed using descriptive statistics, independent t test, chi-square test, correlation, and linear regression.

**Results:** Nurses in northern hospitals were older, had higher educational levels yet received lower pay in comparison with their counterparts in the southern region. Despite these salary differences, those in the north consistently rated their job satisfaction greater in all areas except professional opportunities.

**Conclusion:** Regional differences were related to nurses' job satisfaction. Potential contributing factors included philosophical, cultural, and economic differences between the 2 regions. The noteworthy regional differences that potentially related to nurse' job satisfaction should be investigated in future studies.

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### Introduction

The excessive nursing shortage, poor retention, and high turnover are of great concern in many developed and developing countries. Similarly, mainland China is struggling with a shortage of qualified nurses.<sup>1</sup> Evidence suggests that a shortage of nurses is detrimental not only to working practices and the quality of

patient care, but also to staff morale, all of which affect staff turnover.<sup>2</sup> Recruitment, retention, turnover, and development of quality care in nursing are global issues within the health care setting.<sup>3</sup> Research suggests a relationship between low nurses' job satisfaction with intent to leave and with the nursing shortage.<sup>4,5</sup> Nurses' job satisfaction is an important issue that has been studied in social and nursing sciences.

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## Nursing in Mainland China

The Chinese Health Ministry reported that by the end of 2009 the number of registered nurses was 1.85 million,<sup>1</sup> which meant a nurse density of 1.39 per 1000 population in mainland China compared with 2008 Organization for Economic Co-operation and development data of 16.2 nurses per 1000 population in Ireland, 10.7 nurses per 1000 population in the United States, 9.5 nurses per 1000 population in Japan, and 4.4 nurses per 1000 population in Korea in 2008.<sup>6</sup> Obviously, China has insufficient nurses relative to its population size and health care needs. China has had a growing nursing profession with baccalaureate and master's education begun in the 1900s, and doctoral education initiated in 2004. However, in China, higher educated (those with baccalaureate degrees and beyond) nurses are more likely than less well-educated nurses to leave nursing. This greater turnover of more highly educated nurses is noteworthy because they represent future leadership of the profession in China.<sup>7,8</sup>

### Northern and Southern China

In China, north and south is merely one of the ways that people identify themselves, and the north-south boundary is the Yangtze River. The concepts of Northern and Southern China originate from differences in climate, geography, culture, and physical traits, as well as several periods of actual political division in history.<sup>11</sup> There are also major differences in language, cuisine, and popular entertainment forms. During the China Economic Reforms of the 1980s, Southern China developed much faster than Northern China, which led to the unbalanced regional economic development. To date, most nurses' job satisfaction and relevant studies in China have focused on a certain region, and no documented studies have explored the regional difference impact on nurses' job satisfaction. Considering that the huge discrepancy of culture, economy, and perspectives from Southern and Northern China may play a role on nurses' job satisfaction, this study addressed the comparison between the southern and northern hospitals in mainland China.

The purpose of this article was to explore the current level of job satisfaction among Chinese nurses and examine the differences between northern and southern hospitals with respect to nurses' job satisfaction. The data reported in this paper were part of that collected for a larger study investigating Chinese nurses' job satisfaction and retention.

The following research questions guided this study:

- (1) What are the differences between northern and southern hospitals in terms of the demographic variables?
- (2) What are the differences between northern and southern hospitals in mainland China in terms of job satisfaction measured by the Chinese Nurse Job Satisfaction Scale (CNJSS)?

## Review of the Literature

### Nurses' Job Satisfaction

Job satisfaction is defined as the degree to which employees enjoy their jobs.<sup>12</sup> In this study, job satisfaction was defined as the degree to which nurses enjoy their jobs. Job satisfaction is a frequently studied variable in organizational behavior research and also a central variable in both research and theory of organizational phenomena ranging from job design to supervision.<sup>13</sup> High job satisfaction improves the ability of the health organization to recruit and retain nurses.<sup>14,15</sup> Tourangeau and Cranley<sup>16</sup> reported a relationship between nurses' job retention and their satisfaction with pay and benefits, scheduling, control (autonomy), responsibility, and professional opportunities. In a study that included 5 countries, Aiken and colleagues found that job dissatisfaction among nurses was highest in the United States (41%) followed by Scotland (38%), England (36%), Canada (33%), and Germany (17%).<sup>17</sup> A Chinese study found that more than half of respondents (53.7%) who were Chinese nurses were satisfied with their jobs.<sup>10</sup> Worldwide evidence indicates that job satisfaction is a major predictor of nursing absenteeism, burnout, turnover, and intention to quit<sup>9,18-20</sup> and has the largest effect on nurses' intent to stay and is important in predicting nurses' retention.<sup>21-23</sup> Therefore, it is incumbent upon health care administrators and nursing managers to assess nurses' job satisfaction to develop strategies to improve nurses' retention.

### Factors Influencing Job Satisfaction

Job satisfaction is a complex phenomenon with many components. Suliman and Abu Gharbieh reported that Jordanian nurses were dissatisfied with many work variables such as payment, career opportunities, nursing and hospital administrators' support, transportation, and child care facilities.<sup>24</sup> McNeese-Smith showed that sources of low satisfaction were associated with factors that interfere with job/patient care, feeling overloaded, relations with coworkers, personal factors, organizational factors, and the career stage of the nurse.<sup>25</sup> Lu et al reported that sources of job satisfaction for nurses included working conditions; interaction with patients, coworkers, and managers; the work itself; remuneration (pay, salary); self-growth and promotion; praise and negotiation; control and responsibility; job security; and leadership style and organizational policies.<sup>5</sup> Empowerment has been studied and found to be highly related to job satisfaction,<sup>26-28</sup> and autonomy has been found to greatly affect job satisfaction with higher levels of job autonomy, leading to higher levels of job satisfaction.<sup>29</sup> Ma and colleagues compared nurses from South Carolina hospital and nonhospital settings regarding job

satisfaction and found that autonomy was the second most significant predictor of job satisfaction for hospital nurses.<sup>30</sup> Furthermore, age, years of service, and educational level were found to be correlated with job satisfaction in China and other countries.<sup>31-33</sup>

## Methods

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### Design

The study was part of a project funded by the Shanghai government and received Institutional Review Board approval from Second Military Medical University. A cross-sectional survey design using questionnaires was selected to fulfill the research objectives.

### Sample and Settings

A convenience sample of registered nurses was recruited from urban hospitals with similarity of hospital scale, array of services, and work environments. Hospitals were located in Shandong province, a typical district in northern China, and in Shanghai, a typical southern municipality. The nurse president of each hospital delegated the head nurse of each department to request the participation of registered nurses in the survey. All registered nurses who had worked full time for at least 1 year at the study hospitals were eligible to participate. Two researchers, who were trained using the same guideline and who had participated in a pilot study, distributed 1420 questionnaires to registered nurses. The response rate of this study was 89% with 1278 nurses having completed the questionnaire. Of the obtained sample, 648 (50.7%) nurses were recruited from 6 northern hospitals and 630 (49.3%) nurses were recruited from 6 southern hospitals.

### Instruments

The questionnaire consisted of 2 sections: demographic variables and the Nurses Job Satisfaction Scale. Demographic data collected were age, gender, education level, years of experience in nursing, marital status, job position, and yearly income; nurses' job satisfaction was measured with the Chinese Nurses Job Satisfaction Scale (CNJSS).<sup>34</sup> A detailed description of the development of the CNJSS has been documented in previous work.<sup>35</sup> The final instrument was the 38-item CNJSS, which has 8 subscales: administration, workload, coworkers, work itself, pay, professional opportunities, praise/recognition, and family/work balance. The overall Cronbach's alpha was 0.82 (according to a test of 1185 nurses sample), and 0.73 to 0.81 for the subscales. In this study, scale reliability measured by Cronbach's alpha was 0.88, and 0.64 to 0.82 for the subscales.

### Procedure

The survey questionnaire was included in a packet and distributed to potential participants between February and May 2006. The packet contained a demographic data sheet, one revised instrument, and a self-addressed return envelope. Included in the packet was a letter describing the purpose of the study and assurance that participation of the study was voluntary and anonymous. Instructions directed participants to return completed questionnaires in the return envelopes via collection boxes placed in centrally located nursing offices at each study site. Informed consent to participate was indicated by return of the questionnaire.

### Data Analysis

Data were analyzed using Statistical Package for the Social Sciences (SPSS) software version 16.0 (Chicago, IL) at 0.05 alpha levels. Descriptive statistics, including percentage, frequency, mean, and standard deviation were used to analyze the demographic characteristics and nurses' job satisfaction scale and its subscales. Items of nurses' job satisfaction scales were continuous in nature; thus, t-test was used to test the differences between northern and southern hospitals in regard to nurse job satisfaction. The demographics of the entire sample were treated as categorical variables, thus chi-square was used to test the differences between the two types of hospitals in both groups.<sup>36</sup> Spearman correlation, independent samples t-test, and stepwise multiple regression were used to explain differences in demographic characteristics and nurses' job satisfaction between the 2 regions.

## Findings

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### Characteristics of Respondents

Nearly all (97.9%) of the respondents were female. The predominant age range was 25 to 35 years old ( $n = 554$ , 43.3%) compared with the U.S. average licensed nurses' age of 47.0 in 2008.<sup>37</sup> The educational background included 27.7% with diplomas ( $n = 354$ ), 49.2% with an associate's degree ( $n = 629$ ), and 23.1% with a bachelor's degree and above ( $n = 295$ ). The majority were married ( $n = 814$ , 63.7%). The distribution for tenure at the study site was: 30.4% ( $n = 388$ ) less than 3 years, 17.2% ( $n = 220$ ) between 3 and 5 years, 19.0% ( $n = 243$ ) between 5 and 10 years, and 33.4% ( $n = 427$ ) more than 10 years. Classification of nurses' status included RN2 (junior nurses), RN3 (senior nurses), and RN4 (most senior nurses). RN2 nurses represented 41.4% ( $n = 529$ ), 39.7% ( $n = 507$ ) were RN3 nurses, and 18.9% ( $n = 242$ ) were RN4.

### Significant Differences in Sample Demographics between Northern and Southern Hospitals

The demographics of the sample in both regions were compared (Table 1) with significant differences found in gender, age, level of education, job rank, and marital status. Because there were few males in either group, the difference is negligible, although statistically significant. Nurses in southern hospitals were younger: 76.2% of nurses were under 35 years old in southern hospitals ( $n = 480$ ) versus 44.2% of nurses in northern hospitals ( $n = 285$ ,  $p < 0.001$ ). Southern hospital nurses were less likely to have baccalaureate degrees or higher: 13.2% ( $n = 83$ ) versus 32.7% ( $n = 212$ ,  $p < 0.001$ ). Respondents in the northern hospitals were significantly more likely ( $p < 0.001$ ) to be of higher rank than those in the south. In the north, there were 172 (27.3%) RN4 respondents compared with 70 (10.8%) in the south. Southern nurses were also significantly more likely to be single ( $p = 0.013$ ) than their northern counterparts.

There were significant correlations between age ( $r = 0.144$ ,  $p < 0.01$ ), educational level ( $r = 0.095$ ,  $p < 0.01$ ), and job rank ( $r = 0.091$ ,  $p < 0.01$ ) and job satisfaction, but not for annual income and length of service at study hospitals. Differences in job satisfaction for gender, marital status, and region were tested using

the independent samples t-test. Although gender and marital status did not influence job satisfaction, there was a significant ( $t = 11.208$ ,  $p < 0.01$ ) difference between regions, with nurses' job satisfaction in southern hospitals lower than that in northern hospitals ( $t = 11.208$ ,  $p < 0.01$ ).

Age, educational level, job rank, and region were entered into stepwise regression as independent variables with nurse's job satisfaction to create a predictive model. Stepwise regression is a procedure that "starts by entering the single best predictor into the model. The next best predictor that contributes the greatest amount of unique variance is entered next. At each step, the new predictor entered is that variable with the greatest partial correlation with the dependent variable when all variables already included have been partialled out."<sup>38</sup> As depicted in Table 2, 2 of the 4 indicators of nurse demographic characteristics including southern region ( $\beta = 0.268$ ,  $p < 0.001$ ) and age ( $\beta = 0.061$ ,  $p < 0.001$ ) were significant predictors of nurses' job satisfaction.

### Comparisons of Nurses' Job Satisfaction between Northern and Southern Hospitals

Overall, nurses in northern hospitals were more satisfied than nurses in southern hospitals ( $p <$

**Table 1 – Demographics and Differences between Northern and Southern Hospitals**

Variable	Nurses in Southern Hospitals (n = 630)		Nurses in Northern Hospitals (n = 648)		Chi-square	p
	n	%	n	%		
Gender					8.089	0.004
Male	6	1.0	21	3.2		
Female	624	99.0	627	96.8		
Age					159.424	< 0.001
<25	161	25.6	50	7.7		
25-35	319	50.6	235	36.3		
36-45	105	16.7	259	40.0		
>45	45	7.1	104	16.0		
Educational level					69.34	< 0.001
Diploma in general	203	32.2	151	23.3		
Associate's degree	344	54.6	285	44.0		
Bachelor's degree and above	83	13.2	212	32.7		
Years of employee at study site					5.683	0.128
1-3	194	30.8	194	29.9		
3-5	93	14.8	127	19.6		
5-10	121	19.1	122	18.8		
>10	222	35.3	205	31.7		
Job rank					60.673	< 0.001
RN2	279	43.1	250	39.7		
RN3	299	46.1	208	33.0		
RN4	70	10.8	172	27.3		
Marital status					8.648	0.013
Nonmarried	254	40.3	210	32.4		
Married	376	59.7	438	67.6		
Yearly income					166.56	< 0.001
<\$2857.14	68	10.8	278	42.9		
\$2857.14-\$4285.71	205	32.5	176	27.2		
\$4285.71-\$5714.29	193	30.7	102	15.7		
>\$5714.29	164	26.0	112	14.2		



**Table 2 – Multiple Regression Model (Stepwise Procedure)**

Predictor variable	Unstandardized coefficients (B)	Coefficients (Beta)	t-statistic	p-value
Region	0.241	0.268	9.498	< 0.001
Age	0.031	0.061	2.180	0.029

0.001, Table 3). Further comparisons were made to determine the role of the 8 domains in the CNJSS: administration, workload, coworkers, work itself, pay, professional opportunities, praise/recognition, and family/work balance. Significant differences found included nurses in northern hospitals being more satisfied than nurses in southern hospitals with respect to: administration ( $p < 0.001$ ), workloads ( $p < 0.001$ ), coworkers ( $p < 0.001$ ), work itself ( $p < 0.001$ ), pay ( $p < 0.003$ , adjusted 0.05 alpha levels to  $0.05/17 = 0.003$ ), praise/recognition ( $p < 0.001$ ), and family/work balance ( $p < 0.001$ ). Nurses in southern hospitals were more satisfied with professional opportunities than nurses in northern hospitals ( $p < 0.003$ , adjusted 0.05 alpha levels to  $0.05/17 = 0.003$ ).

## Discussion

The key findings of this study include: (a) the greatest differences in demographics between respondents in the 2 regions were in age, educational level, and annual salary (respondents in northern hospitals were older and had higher educational levels, yet received lower pay compared with their colleagues in the southern region); and (b) despite these salary differences, those in the north consistently rated their job satisfaction greater in all areas except for professional opportunities. Specifically, nurses in northern hospitals reported higher rates of job satisfaction than nurses in southern hospitals with respect to pay, the work itself, workloads, administration, coworkers, praise/recognition,

**Table 3 – Comparisons of Job Satisfaction between Northern and Southern Hospitals**

Subscale and Representative Items	Nurses in Southern Hospitals (n = 630)		Nurses in Northern Hospitals (n = 648)		t	p
	M	SD	M	SD		
<b>Administration</b>	<b>3.37</b>	<b>0.59</b>	<b>3.64</b>	<b>0.73</b>	<b>7.224</b>	<b>&lt; 0.001</b>
You have more flexibility in scheduling your work than nurses in other practice settings.	2.83	0.04	3.61	0.82	12.872	< 0.001
<b>Workloads</b>	<b>3.01</b>	<b>0.44</b>	<b>3.27</b>	<b>0.50</b>	<b>9.788</b>	<b>&lt; 0.001</b>
*You could not deliver better patient care even if you had more time.	3.96	0.72	4.48	0.87	11.596	< 0.001
<b>Coworkers</b>	<b>3.87</b>	<b>0.50</b>	<b>4.22</b>	<b>0.62</b>	<b>11.008</b>	<b>&lt; 0.001</b>
You are able to work well with physicians.	3.81	0.78	4.29	0.98	9.673	< 0.001
<b>Work itself</b>	<b>2.60</b>	<b>0.53</b>	<b>2.90</b>	<b>0.68</b>	<b>8.811</b>	<b>&lt; 0.001</b>
You do not feel inconvenience in your life because of the shifts.	2.23	1.14	2.79	1.05	7.699	< 0.001
<b>Pay</b>	<b>2.25</b>	<b>0.82</b>	<b>2.42</b>	<b>0.95</b>	<b>3.177</b>	<b>0.0023</b>
Your pay equals the pay in other agencies in your area/region.	2.65	1.06	2.99	1.03	4.789	< 0.001
<b>Professional opportunities</b>	<b>2.93</b>	<b>0.62</b>	<b>2.81</b>	<b>0.84</b>	<b>2.947</b>	<b>0.0027</b>
*You feel there are fewer opportunities for promotion.	2.47	0.95	2.21	1.27	4.237	< 0.001
<b>Praise/recognition</b>	<b>3.35</b>	<b>0.57</b>	<b>3.76</b>	<b>0.72</b>	<b>11.251</b>	<b>&lt; 0.001</b>
Patients and their families are satisfied with the care that you provide.	3.75	0.71	4.33	0.82	13.574	< 0.001
<b>Family/work balance</b>	<b>3.40</b>	<b>0.77</b>	<b>3.99</b>	<b>0.85</b>	<b>12.93</b>	<b>&lt; 0.001</b>
You can cope with the relationship well between work and family.	3.70	0.79	4.32	0.86	13.371	< 0.001
<b>Overall job satisfaction</b>	<b>3.10</b>	<b>0.39</b>	<b>3.37</b>	<b>0.46</b>	<b>11.208</b>	<b>&lt; 0.001</b>

\* Item scores were reversed.

and family/work balance, whereas nurses in southern hospitals were more satisfied with professional opportunities than nurses in northern hospitals.

### Age

The average age of nurses in northern hospitals was older than in southern hospitals, with 56.0% of nurses older than 35 years. Evidence indicates that older nurses were more satisfied with their jobs,<sup>16,41</sup> which is consistent with the findings in this study that the northern nurses' job satisfaction was significantly higher than southern nurses. In addition, when controlling the regional influence, age was the only predictor for nurses' job satisfaction. With each additional year of age, a nurse's job satisfaction improved about 0.06. The age differences between these 2 regions may be explained by the fact that nurses in northern hospitals are more influenced by a sense of obligation to remain in their occupation,<sup>42</sup> loyalty to their organization, or lack of alternative jobs outside of nursing. In comparison, more job opportunities are available in the southern area because of higher economic growth and the open job market.

### Educational Level

In the 1980s, the Chinese government reaffirmed that nursing, just as medicine, was an independent profession that required well-qualified personnel, with nurses being awarded a protected title by the National Ministry of Health.<sup>39</sup> At present, there are 5 levels of nursing education in mainland China: diploma programs, associate's degrees, bachelor's degrees, master's degrees, and doctoral programs. Most nurses who have a diploma degree have been improving their educational level through continued education programs.<sup>40</sup> Table 1 illustrates that in northern hospitals 32.7% of the nurses have a baccalaureate's degree or above, and in southern hospitals, 13.2% of the nurses have a baccalaureate's degree or higher. Fewer highly educated nurses staying in nursing may be more a result of highly educated southern nurses leaving their jobs because of low job satisfaction, which is consistent with research findings that higher educated nurses tend to be less satisfied with their job, leading to turnover.<sup>31</sup> In addition, nurses in the north—especially in Shandong province, the cradle of Confucianism—may be influenced by the philosophy that human beings are teachable, improvable, and perfectible through personal and communal endeavor, and thus prefer to stay in their positions with learning and self-improvement.

### Income

The differences in the yearly income of nurses may be a result of differences in regional economic development in China. Shanghai is the biggest port in China and a center of technical, trade, finance, and

information, which is a great magnet to local, national, and international pharmaceutical companies, and also results in the high income and high consumption rate. The average annual salary of nursing staff is ¥27,000 CNY (about \$4100 USD) in mainland China, which is higher than the annual income of ¥17,811 CNY in (\$2700 USD) in the northern area<sup>43</sup> but lower than the average annual income of ¥43,000 CNY (\$6600 USD) in Shanghai.<sup>44</sup> In this study, although nurses in northern hospitals strongly agreed with the item "An upgrading of the pay scales at your agency is needed," they remain more satisfied with "present pay" than southern nurses and this may indicate that although the northern nurses are aware of the income gap between northern and southern nurses, they accept it and remain optimistic. This is consistent with the northern economy being less developed than southern China, resulting in lower average income. Comparatively, nurses' pay in the north is far more than average among the work forces in the region<sup>41</sup> and this could be the reason that northern nurses are more satisfied and willing to stay in nursing. Conversely, although southern nurses are paid more than northern nurses, they still feel less satisfied than the northern nurses because nurses' pay in the southern region is much less than the average of the rest of the region's work force.<sup>45</sup>

### Work Satisfaction

The satisfaction difference for pay between northern and southern nurses may be related to the satisfaction difference for the work. Northern nurses seem to be more satisfied with the nursing work including shifts, working environment, working conditions, and significance of the nursing, because of the fewer job opportunities outside and the stable pay in nursing. However, both northern and southern nurses are very much dissatisfied with the item "Nursing is widely recognized as being an important profession" because despite improvement in the last decade, nurses in China have very low socially recognized status. Although nurses are also referred to as "white angels" in mainland China, because of the entrenched traditional concept, the social status of nurses is still relatively low, and it has been difficult for the nursing profession to receive public recognition and respect. This recognition and respect increased somewhat when Chinese nurses played an important role in the severe acute respiratory syndrome (SARS) crisis and were recognized and praised by the public, thereby increasing nurses' sense of achievement, motivation, and enthusiasm for their work.

### Coworkers

In Chinese culture, the relationship with coworkers is considered one of the most important factors regarding one's achievement in the work setting. Nurses in northern hospitals were more satisfied with coworkers

than nurses in southern hospitals. Pearson and Chong found that the importance of harmony in the workplace for Chinese nurses can be traced to the significant effect of Chinese Confucian values.<sup>46</sup> The philosophies of Confucianism, which originated and derived from Shandong province at the north of China, may have a greater influence on northern people than southern.

### Administration

In other studies, more than half of German (69.4%), US (60.5%), and English (50.1%) nurses were satisfied with participating in developing their own schedules.<sup>17</sup> In those countries, nurses have a variety of options that allow flexible work scheduling and full- or part-time positions with varying shifts, as well as options that provide nurses with an opportunity to balance work and other life obligations. In China, almost all of the staff nurses work full-time under the obligation of shifts. Nurse managers, the most senior nurses, or those working in outpatient settings or special departments that do not require shifts, may be exempt from the shifts. In this study, southern and northern nurses scored the item “You have more flexibility in scheduling your work than nurses in other practice settings” were 2.83 and 3.61, respectively. Two reasons may explain this. Southern nurses are younger than northern nurses and are not exempt from night shifts, and northern nurse managers may demonstrate more consideration and allow nurses to work around their family, school, and other obligations when scheduling their shifts.

### Professional Opportunities

The only subscale on which southern nurses reported higher levels of satisfaction than northern nurses consisted of items concerned with professional opportunities. There are 2 possible reasons for this difference. The south is more developed, with consequently more employment opportunities. In addition, high-tech development has brought more opportunities for nurses to improve their professional skills through education and training, thereby increasing their opportunities for promotion.

### Study Limitations

There are several limitations in this study. First, this study used convenience sampling, which limited the generalization of the results. Second, to make the sample from the 2 regions comparable, only hospitals with similarity of scale, array of services, and work environments were selected. Thus, a larger sample from broader scopes of hospitals has to be included in further research using a randomized sampling technique. Third, because the data were collected in 2006, this study may serve as providing an essential base for comparison with the current situation because the role

of nursing and the economy in China have evolved since that time.

### Conclusion

A comparative design was used in this study, and a convenience sample was obtained from northern and southern hospitals in mainland China. The findings of this study may help Chinese health care administrators develop strategies in improving nurses' job satisfaction that take regional characteristics into consideration, such as educational, income and consumption level, and philosophical and cultural differences. In addition, nurse managers can enable nurses to experience professional satisfaction, personal balance, and opportunities for choices by offering flexible scheduling options. The results of this study are considered a baseline for future research with a larger and more homogenous sample to enhance generalization of the results. Furthermore, the noteworthy differences between regions in cultural values, political status, economic levels, and standard of living—all of which may potentially relate to nurses' job satisfaction—should be investigated in future studies in China and in other countries of the world.

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